

REJECTION UNDER 35 U.S.C. § 102

Claims 17-32 are rejected under 35 U.S.C. § 102(b) as being anticipated by Hornbeck (U.S. Pat. No. 5,021,663).

It is respectfully submitted that the Office Action contains a misinterpretation of the Hornbeck reference and the pending application.

A key basis for the misinterpretation appears in the last five lines of the Office Action at Page 13:

The examiner has interpreted from a comparison of Figure 4a and Figure 11B and the applicants specification referenced above, that stack 144 of Hornbeck (663) is equivalent to microbridge 29, and that both Figures above show two detectors linked together by an amorphous silicon layer with signal processing circuitry contained in their substrates.

It is respectfully submitted that Hornbeck does not "show two detectors linked together." More specifically, stack 144 of Hornbeck's Figure 4a is not equivalent to microbridge 29 of the present Figure 11B.

Although a very cursory or layman's view of Hornbeck's Figure 4a and Figure 11B of the present invention may, at first blush, lead to a misapprehension as to corresponding structure, a careful reading Hornbeck and the present specification clearly shows a considerable difference; and specifically that Hornbeck teaches only one single bolometer or one single elementary detector.

The Hornbeck Reference:

It is indicated in Hornbeck at Column 3, Lines 20 and 21 of the specification that:

Fig. 3 is a schematic perspective view of a single bolometer, generally denoted by reference numeral 140, from array 106. (emphasis added)

Further, Column 3, Lines 33-46 of Hornbeck corresponds exactly to the passages cited by the Examiner on Page 10 in the fourth through sixth lines of the pending final action:

FIGS 4a-b are schematic cross sectional elevation views of bolometer 140 and FIG. 5a is a plan view; FIG. 5b illustrates in plan view a portion of array 106 showing the arrangement of the individual bolometers.

This description, therefore, explicitly indicates that the structural cross sectional view of Figure 4a of Hornbeck does represent one single bolometer (or elementary detector) with the detail of stack 144.

Hornbeck's stack 144 is provided with two interconnecting elements 156 and 158, which are said to be diagonally localized in opposite corners of stack 144.

Additionally, in the "brief description of the drawings" in Hornbeck (Column 2, Lines 46-48), it is specified:

Figs. 4a-b are cross sectional elevation views of a single bolometer of the first preferred embodiment array.
(emphasis added)

Therefore, there can not be any doubt regarding Hornbeck's Figure 4a, which illustrates one single bolometer.

Therefore, the above-mentioned conclusion of Hornbeck in the Office Action at Page 13, last paragraph, stating that Figure 4a of Hornbeck "shows two detectors linked together" is clearly wrong; and the same applies *a fortiori* as to the last three lines of Page 11 of the Office Action.

Beyond this, the attention of the Examiner is respectfully directed further to Figure 5a of Hornbeck, where such a single bolometer is presented and in which stack

144 is essentially isotherm on the surface, except at the level of leads 170, 174, since the thermal resistances are defined by said leads 170, 174.

Again, Hornbeck's entire structure constitutes only one single thermal detection element (one single bolometer), which may generate only one pixel of infrared image and, therefore, constitutes one single microbridge detector.

This point is further confirmed directly by Figure 4a at the level of the so-called mentioned "bolometer resistor," which explicitly overlaps gap 172.

The Present Invention:

In contrast to Hornbeck, the present specification, and the "brief description of the drawings" indicated that Figures 11A and 11B illustrate two neighboring detectors. Further, note cross sectional views of the structure of the invention rendered to a preferred mode in the field of infrared detection as per Page 11, Lines 7-11. It is very clear that said figures represent two neighboring detectors referenced 16 and 17.

Therefore, it cannot be said that Figure 4a of Hornbeck anticipates the invention defined by Claims 17-32 as illustrated in Figure 11B of the present application. Obviously, Figure 4a of Hornbeck illustrates one single bolometer, whereas Figure 11B of the present application illustrates two neighboring detectors; i.e., two neighboring bolometers.

It is important to note the cross sectional view of Figure 11B corresponding to the section realized along the line A-A of Figure 8 in the present invention. This line crosses two microbridge detectors, contrary to what is disclosed in Figure 4a of Hornbeck and, in fact, in all of Hornbeck.

As emphasized in the prior response filed in March 2004, element 15, which is situated between the two dotted vertical lines in the top of Figure 11B and which is characteristic of the pending invention, is not disclosed nor suggested in Hornbeck, and can certainly not be assimilated to the eventual residual material of gap 172 of Hornbeck.

CONCLUSION

It is believed that all of the stated grounds of rejection have been properly rendered moot. Applicant therefore respectfully requests that the Examiner reconsider and withdraw all presently outstanding rejections. It is believed that a full and complete response has been made to the outstanding Office Action, and as such, the present application is in condition for allowance. Thus, prompt and favorable consideration of this amendment is respectfully requested.

Furthermore, Applicants request a telephone interview between their attorney and the Examiner to discuss this matter further.

Respectfully submitted,

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Page 5 of 5